

03500.015786.1

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: ) Previous Examiner: K. Srivastava  
TSUTOMU HONMA ET AL. ) Previous Group Art Unit: 1651  
Div. of Application No.: 09/951,720 )  
Filed: Herewith )  
For: METHOD FOR )  
MANUFACTURING A )  
POLYHYDROXYALKANOATE ) June 25, 2003

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed Form PTO-1449. In accordance with 37 C.F.R. § 1.98(d), copies of the documents available in Application No. 09/951,720, from which the present application claims benefit under 35 U.S.C. § 120, are not enclosed.

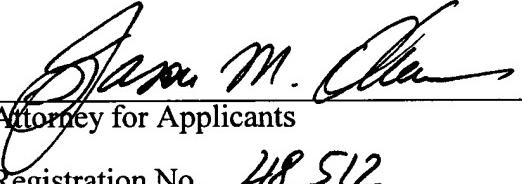
The concise explanation of relevance for the non-English documents may be found, inter alia, in the specification where they are cited and/or in the English language abstracts attached thereto. In addition, the concise explanation of relevance for JP 63-226291 may be found in corresponding U.S. Patent No. 5,135,859.

CONCLUSION

It is respectfully requested that the above information be considered by the Examiner and that a copy of the enclosed Form PTO-1449 be returned indicating that such information has been considered.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

  
\_\_\_\_\_  
Attorney for Applicants  
\_\_\_\_\_  
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FORM PTO 1449 (modified)  U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  LIST OF REFERENCES CITED BY APPLICANT(S) (Use several sheets if necessary)			ATTY DOCKET NO. <b>03500.015786.1</b>		APPLICATION NO. <b>Div. of 09/951,720</b>		
			APPLICANT <b>Tsutomu Honma et al.</b>				
			FILING DATE <b>Herewith</b>	GROUP <b>N.Y.A.</b>			
U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		<b>4,393,167</b>	<b>07/12/83</b>	<b>Holmes et al.</b>	<b>525</b>	<b>64</b>	
		<b>4,876,331</b>	<b>10/24/89</b>	<b>Doi</b>	<b>528</b>	<b>361</b>	
		<b>5,200,332</b>	<b>04/06/93</b>	<b>Yamane et al.</b>	<b>435</b>	<b>135</b>	
		<b>5,292,860</b>	<b>03/08/94</b>	<b>Shiotani et al.</b>	<b>528</b>	<b>361</b>	
		<b>5,135,859</b>	<b>08/04/92</b>	<b>Witholt et al.</b>	<b>435</b>	<b>135</b>	
		<b>6,485,951 B2</b>	<b>11/26/02</b>	<b>Yano et al.</b>	<b>435</b>	<b>190</b>	
		<b>6,492,147 B2</b>	<b>12/10/02</b>	<b>Imamura et al.</b>	<b>435</b>	<b>135</b>	
		<b>6,521,429 B2</b>	<b>02/18/03</b>	<b>Honma et al.</b>	<b>435</b>	<b>135</b>	
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO/ OR ABSTRACT
	EP	<b>1 113 033</b>	<b>07/04/01</b>	<b>Europe</b>			
	JP	<b>63-226291</b>	<b>09/20/88</b>	<b>Japan</b>			<b>Abstract</b>
	JP	<b>2989175</b>	<b>12/13/99</b>	<b>Japan</b>			<b>Abstract</b>
	JP	<b>5-64591</b>	<b>03/19/93</b>	<b>Japan</b>			<b>Abstract</b>
	JP	<b>5-214081</b>	<b>08/24/93</b>	<b>Japan</b>			<b>Abstract</b>
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)							
		<b>Alan Grund et al., "Regulation of Alkane Oxidation in <i>Psuedomonas putida</i>," 123(2) J. Bacteriol. 546-556 (1975).</b>					
		<b>Y.B. Kim et al., "Preparation and Characterization of Poly(<math>\beta</math>-Hydroxyalkanoates) Obtained from <i>Pseudomonas oleovorans</i> with Mixtures of 5-Phenylvaleric Acid and n-Alkanoic Acids," 24 Macromol. 5256-5260 (1991).</b>					
		<b>Henry J. Vogel et al., "Acetylornithinase of <i>Escherichia coli</i>: Partial Purification and Some Properties," 218 J. Biol. Chem. 97-106 (1956).</b>					
		<b>Katharina Fritzsche et al., "An Unusual Bacterial Polyester with a Phenyl Pendant Group," 191 Macromol. Chem. 1957-1965 (1990).</b>					
EXAMINER			DATE CONSIDERED				

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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		<b>2001/0055795 A1</b>	<b>12/27/01</b>	<b>Yano et al.</b>	<b>435</b>	<b>135</b>	
		<b>2001/0053544 A1</b>	<b>12/20/01</b>	<b>Yano et al.</b>	<b>435</b>	<b>196</b>	
		<b>2002/0052444 A1</b>	<b>05/02/02</b>	<b>Imamura et al.</b>	<b>525</b>	<b>107</b>	
		<b>2002/0098565 A1</b>	<b>07/25/02</b>	<b>Yano et al.</b>	<b>435</b>	<b>196</b>	
FOREIGN PATENT DOCUMENTS							
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	JP	<b>6-145311</b>	<b>05/24/94</b>	<b>Japan</b>			<b>Abstract</b>
	JP	<b>6-284892</b>	<b>10/11/94</b>	<b>Japan</b>			<b>Abstract</b>
	JP	<b>7-48438</b>	<b>02/21/95</b>	<b>Japan</b>			<b>Abstract</b>
	JP	<b>8-89264</b>	<b>04/09/96</b>	<b>Japan</b>			<b>Abstract</b>
	JP	<b>9-191893</b>	<b>07/29/97</b>	<b>Japan</b>			<b>Abstract</b>
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)							
		<b>Suzette M. Aróstegui et al., "Bacterial Polyesters Produced by <i>Pseudomonas oleovorans</i> Containing Nitrophenyl Groups," 32 <i>Macromol.</i> 2889-2895 (1999).</b>					
		<b>Helmut Ritter et al., "Bacterial Production of Polyesters Bearing Phenoxy Groups in Side Chains, 1Poly(3-Hydroxy-5-Phenoxypentanoate-co-3-Hydroxy-9-Phenoxy-Nonanoate) From <i>Pseudomonas oleovorans</i>," 195 <i>Macromol. Chem. Phys.</i> 1665-1672 (1994).</b>					
		<b>YoungBaek Kim et al., "Poly-3-Hydroxyalkanoates Produced From <i>Pseudomonas oleovorans</i> Grown with <math>\omega</math>-Phenoxyalkanoates," 29 <i>Macromol.</i> 3432-3435 (1996).</b>					
		<b>Won Ho Park et al., "Epoxidation of Bacterial Polyesters with Unsaturated Side Chains. I. Production and Epoxidation of Polyesters From 10-Undecanoic Acid," 31 <i>Macromol.</i> 1480-1486 (1998).</b>					
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PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)  
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## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO/ OR ABSTRACT
	JP	11-32789	02/09/99	Japan			Abstract
	JP	5-49487	03/02/93	Japan			Abstract
	JP	7-265065	10/17/95	Japan			Abstract

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

		Won Ho Park et al., "Epoxidation of Bacterial Polyesters with Unsaturated Side Chains. II. Rate of Epoxidation and Polymer Properties," 36 J. Polym. Sci. 2381-2387 (1998).
		Yasuo Takagi et al., "Biosynthesis of Polyhydroxyalkanoate with a Thiophenoxy Side Group Obtained from <i>Pseudomonas putida</i> ," 32 Macromol. 8315-8318 (1999).
		Roland G. Lageveen et al., "Formation of Polyesters by <i>Pseudomonas oleoverans</i> : Effect of Substrates on Formation and Composition of Poly-(R)-3-Hydroxyalkanoates and Poly-(R)-3-Hydroxyalkenoates," 54(12) Appl. Environ. Microbiol. 2924-2932 (1988).
		Yoshiharu Doi et al., "Biosynthesis and Characterization of a New Bacterial Copolyester of 3-Hydroxyalkanoates and 3-Hydroxy- $\omega$ -Chloroalkanoates," 23 Macromol. 3705-3707 (1990).

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## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

	<b>Joanne M. Curley et al., "Production of Poly(3-Hydroxyalkanoates) Containing Aromatic Substituents by <i>Pseudomonas oleovorans</i>," 29 Macromol. 1762-1766 (1996).</b>
	<b>Kuno Jung et al., "Characterization of New Bacterial Copolymers Containing 3-Hydroxyalkanoates and Acetoxy-3-Hydroxyalkanoates," 33 Macromol. 8571-8575 (2000).</b>
	<b>Richard A. Gross et al., "Cyanophenoxy-Containing Microbial Polyesters: Structural Analysis, Thermal Properties, Second Harmonic Generation and In-Vivo Biodegradability," 39 Polym. International 205-213 (1996).</b>
	<b>Marianela Andújar et al., "Polyesters Produced by <i>Pseudomonas oleovorans</i> Containing Cyclohexyl Groups," 30 Macromol. 1611-1615 (1997).</b>

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Form #62